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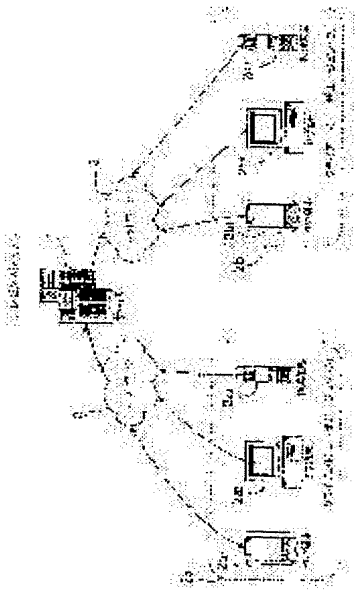
(54) PRESENCE MANAGEMENT METHOD AND DEVICE

(57)Abstract:
PROBLEM TO BE SOLVED: To synchronize a dynamically varying buddy list among terminals when one person uses a plurality of the terminals on a presence system.
SOLUTION: A presence notification message is transmitted to all of the user's terminals. The transmission is timed to, for example, update of presence information of a buddy, setting of a new buddy, update of display attribute information, cancellation of the buddy and presence notification of unknown presentity. By this, the buddy list is synchronized among the dynamically varying terminals when the person uses a plurality of the terminals on the presence system, and further the buddy list is displayed in the same form with no variation in display form among the terminals.



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* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

CLAIMS

[Claim(s)]
[Claim 1]
It is the presence management method used for the presence management equipment which manages the presence information on the user group which operates a client group,
The presence management step which receives a setup of each user's presence information included in said user group, and manages this,
The client storage step which memorizes the identifier of 1 or two or more clients of each user which are contained in said user group,
The distribution place storage step which memorizes the identifier (henceforth a distribution place list) of the distribution place user each user's presence information included in said user group,
The buddy list storage step which memorizes the identifier (henceforth a buddy list) of the buddy who is 1 each user contained in said user group gets interested in, or two or more of other users,
The renewal step of a buddy list which updates the distribution place list which received renewal of the buddy list of the 1st user included in said user group from one which said 1st user operates of clients, and has memorized it at said distribution place storage step according to the contents of updating, and the buddy list memorized at said buddy list storage step,
The buddy list synchronous step which transmits said buddy's identifier to said thing under connection with presence management equipment among said 1st user's clients with a buddy's added presence information when it judges whether the buddy was added at said renewal step of a buddy list and a buddy is added,
****** presence management method.
[Claim 2]
Said buddy list synchronous step is a presence management method according to claim 1 which transmits the attribute information about one which is contained in said user group of users to the thing under said connection with presence management equipment among said 1st user's clients using the command for notifying presence information.
[Claim 3]
It is presence management equipment which manages the presence information on the user group which operates a client group,
The presence management tool which receives a setup of each user's presence information included in said user group, and manages this,
A client storage means to memorize the identifier of 1 or two or more clients of each user which

are contained in said user group,
A distribution place storage means to memorize the identifier (henceforth a distribution place list) of the distribution place user each user's presence information included in said user group,
A buddy list storage means to memorize the identifier (henceforth a buddy list) of the buddy who is 1 each user contained in said user group gets interested in, or two or more of other users,
A renewal means of a buddy list update the distribution place list which received renewal of the buddy list of the 1st user included in said user group from one which said 1st user operates of clients, and has memorized it with said distribution place storage means according to the contents of updating, and the buddy list memorized with said buddy list storage means,
A buddy list synchronous means to transmit said buddy's identifier to said thing under connection with presence management equipment among said 1st user's clients with a buddy's added presence information when it judges whether the buddy was added with said renewal means of a buddy list and a buddy is added,
******** presence management equipment.
[Claim 4]
It is a presence manager for operating the computer which manages the presence information on the user group which operates a client group,
The presence management tool which receives a setup of each user's presence information included in said user group, and manages this,
A client storage means to memorize the identifier of 1 or two or more clients of each user which are contained in said user group,
A distribution place storage means to memorize the identifier (henceforth a distribution place list) of the distribution place user each user's presence information included in said user group,
A buddy list storage means to memorize the identifier (henceforth a buddy list) of the buddy who is 1 each user contained in said user group gets interested in, or two or more of other users,
a renewal means of a buddy list update the distribution place list which received renewal of the buddy list of the 1st user included in said user group from one which said 1st user operates of clients, and has memorized it with said distribution place storage means according to the contents of updating, and the buddy list memorized with said buddy list storage means -- and
A buddy list synchronous means to transmit said buddy's identifier to the thing under said connection with presence management equipment among said 1st user's clients with a buddy's added presence information when it judges whether the buddy was added with said renewal means of a buddy list and a buddy is added,
The presence manager as which it carries out and said computer is operated.
[Claim 5]
It is the record medium which recorded the presence manager which manages the presence information on the user group which operates a client group and in which computer reading is possible,
The presence management step which receives a setup of each user's presence information included in said user group, and manages this,
The client storage step which memorizes the identifier of 1 or two or more clients of each user which are contained in said user group,
The distribution place storage step which memorizes the identifier (henceforth a distribution place list) of the distribution place user each user's presence information included in said user group,
The buddy list storage step which memorizes the identifier (henceforth a buddy list) of the

buddy who is 1 each user contained in said user group gets interested in, or two or more of other users,
The renewal step of a buddy list which updates the distribution place list which received renewal of the buddy list of the 1st user included in said user group from one which said 1st user operates of clients, and has memorized it at said distribution place storage step according to the contents of updating, and the buddy list memorized at said buddy list storage step,
The buddy list synchronous step which transmits said buddy's identifier to said thing under connection with presence management equipment among said 1st user's clients with a buddy's added presence information when it judges whether the buddy was added at said renewal step of a buddy list and a buddy is added,
The record medium which recorded the presence manager for performing and in which computer reading is possible.
[Claim 6]
It is the presence reference approach used for the 1st client which a user operates,
The connection step linked to the computer which manages the presence information of the buddy who is 1 said user gets interested in, or two or more of other users,
The buddy list display step which receives said buddy's identifier and its presence information from said computer, and displays said buddy's presence information,
The synchronous step which receives the presence information of said user's new buddy and a buddy's identifier which were set up from the 2nd client which said user operates from said computer after said buddy list display step,
The renewal step of a buddy list which displays said new buddy's presence information,
******, the presence reference approach.
[Claim 7]
It is presence reference equipment as the 1st client which a user operates,
The connecting means linked to the computer which manages the presence information of the buddy who is 1 said user gets interested in, or two or more of other users,
A buddy list display means to receive said buddy's identifier and its presence information from said computer, and to display said buddy's presence information,
A synchronous means to receive the presence information of said user's new buddy and a buddy's identifier which were set up from the 2nd client which said user operates from said computer after the display by said buddy list display means,
A renewal means of a buddy list to display said new buddy's presence information,
******** presence reference equipment.
[Claim 8]
It is a presence reference program for operating the computer as the 1st client which a user operates,
The connecting means linked to the computer which manages the presence information of the buddy who is 1 said user gets interested in, or two or more of other users,
A buddy list display means to receive said buddy's identifier and its presence information from said computer, and to display said buddy's presence information,
a synchronous means to receive the presence information of said user's new buddy and a buddy's identifier which were set up from the 2nd client which said user operates from said computer after the display by said buddy list display means -- and
A renewal means of a buddy list to display said new buddy's presence information,
The presence reference program as which it carries out and said computer is operated.

[Claim 9]
It is the record medium which recorded the presence reference program used for the 1st client which a user operates and in which computer reading is possible,
The connection step linked to the computer which manages the presence information of the buddy who is 1 said user gets interested in, or two or more of other users,
The buddy list display step which receives said buddy's identifier and its presence information from said computer, and displays said buddy's presence information,
The synchronous step which receives the presence information of said user's new buddy and a buddy's identifier which were set up from the 2nd client which said user operates from said computer after said buddy list display step,
The record medium which recorded the presence reference program for performing the renewal step of a buddy list which displays said new buddy's presence information and in which computer reading is possible.
[Claim 10]
It is the presence reference approach used for the 1st client which a user operates,
The connection step linked to the computer which manages the presence information of the buddy who is 1 said user gets interested in, or two or more of other users,
The buddy list setting step which receives assignment of a buddy's identifier, and/or a setup of the attribute information about each buddy of said buddy list, and transmits a buddy's identifier and attribute information to said computer,
******, the presence reference approach.

[Translation done.]

* NOTICES *

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention]
This invention relates to a presence system for the user on a network to refer to other users' presence information.
In this invention, a presence system contains a server and a client. A server accumulates the presence information of the user agent who operates a client, and distributes it to other clients. The owner of the presence information distributed is called a presentation tee tee. The operator of a client who receives the presence information on a presentation tee tee is called a watcher. Individual humanity news which presence information is the information on the arbitration about a presentation tee tee, for example, expresses a condition here, such as text messages, an icon file and the address, and the communication link address, is mentioned. A user agent calls other user agents who wish reference of the presence information a user agent's buddy. A list of a certain user agent's buddy is called buddy list.
[0002]
[Description of the Prior Art]
In recent years, communication service always connectable with the Internet from a house or a firm and the cellular phone which can access the Internet are spreading quickly. Against the background of maintenance of such an infrastructure, the presence system by which a user can refer to other users' presence information on a network is used increasingly in everyday life or an office. In addition, generally the Instant-Messaging system (henceforth IM system) by which users exchange text messages for real time is also used. Since there are some presence systems which treat text messages as a part of presence information, below, suppose a presence system that IM system is included.
[0003]
In the presence system, the presentation tee tee owns presence information. Each presentation tee tee can set up its presence information freely. Moreover, a user registers into a server the presentation tee tee in which he gets interested, i.e., a buddy. A requesting agency user becomes a buddy's watcher and acquires a buddy's presence information.
[0004]
[Problem(s) to be Solved by the Invention]
It is not new that one user uses two or more terminals in recent years. The system put in bearing in mind that one user uses two or more terminals on a presence system exists. For example, in the Microsoft messenger cable (trademark), one user can change and use the

terminal of a firm, and the terminal of a house. If a user updates a buddy list at the terminal of a firm, the newest buddy list will upload to a server. If the terminal of a house connects with a server after that, the buddy list of terminals of a house will be compared with the buddy list of servers, and the newest buddy list will download from a server. Thus, the Microsoft messenger cable synchronizes the buddy list between terminals in case one user uses two or more terminals.

[0005]

However, it does not assume using the terminal of plurality [system / said / presence / user / one / coincidence]. Therefore, even if one user wants to connect two or more terminals to coincidence at a server temporarily, only any one terminal can be connected to a server, but it is inconvenience. Moreover, even if one user can connect two or more terminals by said presence system, it will be a time of each terminal connecting with a server that the buddy list of each terminals will be in the newest condition. Therefore, after two or more terminals are connected to a server, the structure which makes modification of the buddy list in other terminals reflect in the buddy list of some terminals is not considered. In other words, the structure with which the buddy list which changes dynamically synchronizes between the terminals of one user's plurality is not yet offered.

Moreover, in said presence system, the display gestalten of the buddy list displayed on each terminal may differ. The display gestalt of a buddy list can be doubled with liking of a user by setting up display attribute information, such as a buddy's display name and a classification. However, display attribute information is effective only on each terminal. Therefore, a user has to set a display attribute as each terminal one by one and is troublesome to display a buddy list similarly on two or more terminals.

[0006]

Furthermore, in a presence system, a user may be notified of the presence information on the presentation tee tee which the user does not specify as a buddy. This is not desirable on security. for moreover and a user -- also seeing -- on the other hand, the presence information on the presentation tee tee which is not known is notified by the target, and may be sensed unpleasant

The technical problem of this invention is to synchronize between terminals the buddy list which changes dynamically, when one user is using two or more terminals on a presence system.

Another technical problem of this invention is to synchronize the display gestalt of the buddy list of each terminals, without making a user's burden increase, when one user is using two or more terminals on a presence system.

Still more nearly another technical problem of this invention raises the security of a presence system, and is to prevent the troublesome notice of presence for a user.

[0007]

[Means for Solving the Problem]

Invention 1 is a presence management method used for the presence management equipment which manages the presence information on the user group which operates a client group, and offers the presence management method containing the following steps.

- The presence management step which receives a setup of each user's presence information included in the aforementioned user group, and manages this,
- The client storage step which memorizes the identifier of 1 or two or more clients of each user which are contained in the aforementioned user group,
- The distribution place storage step which memorizes the identifier (henceforth a distribution

place list) of the distribution place user each user's presence information included in the aforementioned user group,
- The buddy list storage step which memorizes the identifier (henceforth a buddy list) of the buddy who is 1 each user contained in the aforementioned user group gets interested in, or two or more of other users,
- The renewal step of a buddy list which updates the distribution place list which received renewal of the buddy list of the 1st user included in the aforementioned user group from one which said 1st user operates of clients, and has memorized it at said distribution place storage step according to the contents of updating, and the buddy list which have memorized at said buddy list storage step,
- The buddy list synchronous step which transmits said buddy's identifier to the thing under said connection with presence management equipment among said 1st user's clients with a buddy's added presence information when it judges whether the buddy was added at the aforementioned renewal step of a buddy list and a buddy is added.

[0008]

Invention 2 offers the presence management method which transmits the attribute information about one by which said buddy list synchronous step is contained in said user group of users to the thing under said connection with presence management equipment among said 1st user's clients using the command for notifying presence information in invention 1.

Invention 3 is presence management equipment which manages the presence information on the user group which operates a client group,
The presence management tool which receives a setup of each user's presence information included in said user group, and manages this,
A client storage means to memorize the identifier of 1 or two or more clients of each user which are contained in said user group,
A distribution place storage means to memorize the identifier (henceforth a distribution place list) of the distribution place user each user's presence information included in said user group,
A buddy list storage means to memorize the identifier (henceforth a buddy list) of the buddy who is 1 each user contained in said user group gets interested in, or two or more of other users,
A renewal means of a buddy list update the distribution place list which received renewal of the buddy list of the 1st user included in said user group from one which said 1st user operates of clients, and has memorized it with said distribution place storage means according to the contents of updating, and the buddy list memorized with said buddy list storage means,
A buddy list synchronous means to transmit said buddy's identifier to said thing under connection with presence management equipment among said 1st user's clients with a buddy's added presence information when it judges whether the buddy was added with said renewal means of a buddy list and a buddy is added,
******** presence management equipment is offered.

[0009]

Invention 4 is a presence manager for operating the computer which manages the presence information on the user group which operates a client group,
The presence management tool which receives a setup of each user's presence information included in said user group, and manages this,
A client storage means to memorize the identifier of 1 or two or more clients of each user which are contained in said user group,
A distribution place storage means to memorize the identifier (henceforth a distribution place

list) of the distribution place user each user's presence information included in said user group,
A buddy list storage means to memorize the identifier (henceforth a buddy list) of the buddy who is 1 each user contained in said user group gets interested in, or two or more of other users,
a renewal means of a buddy list update the distribution place list which received renewal of the buddy list of the 1st user included in said user group from one which said 1st user operates of clients, and has memorized it with said distribution place storage means according to the contents of updating, and the buddy list memorized with said buddy list storage means -- and
A buddy list synchronous means to transmit said buddy's identifier to the thing under said connection with presence management equipment among said 1st user's clients with a buddy's added presence information when it judges whether the buddy was added with said renewal means of a buddy list and a buddy is added,
The presence manager as which it carries out and said computer is operated is offered.
[0010]
Invention 5 is a record medium which recorded the presence manager which manages the presence information on the user group which operates a client group and in which computer reading is possible,
The presence management step which receives a setup of each user's presence information included in said user group, and manages this,
The client storage step which memorizes the identifier of 1 or two or more clients of each user which are contained in said user group,
The distribution place storage step which memorizes the identifier (henceforth a distribution place list) of the distribution place user each user's presence information included in said user group,
The buddy list storage step which memorizes the identifier (henceforth a buddy list) of the buddy who is 1 each user contained in said user group gets interested in, or two or more of other users,
The renewal step of a buddy list which updates the distribution place list which received renewal of the buddy list of the 1st user included in said user group from one which said 1st user operates of clients, and has memorized it at said distribution place storage step according to the contents of updating, and the buddy list memorized at said buddy list storage step,
The buddy list synchronous step which transmits said buddy's identifier to said thing under connection with presence management equipment among said 1st user's clients with a buddy's added presence information when it judges whether the buddy was added at said renewal step of a buddy list and a buddy is added,
The record medium which recorded the presence manager for performing and in which computer reading is possible is offered.
[0011]
Invention 6 is the presence reference approach used for the 1st client which a user operates, and offers the presence reference approach containing the following steps.
- The connection step linked to the computer which manages the presence information of the buddy who is 1 the aforementioned user gets interested in, or two or more of other users,
- The buddy list display step which receives the aforementioned buddy's identifier and its presence information from said computer, and displays said buddy's presence information,
- The synchronous step which receives the presence information of said user's new buddy and a buddy's identifier which were set up from the 2nd client which the aforementioned user operates from said computer after said buddy list display step,

- the renewal step of a buddy list which displays said new buddy's presence information.
[0012]
Invention 7 is presence reference equipment as the 1st client which a user operates,
The connecting means linked to the computer which manages the presence information of the buddy who is 1 said user gets interested in, or two or more of other users,
A buddy list display means to receive said buddy's identifier and its presence information from said computer, and to display said buddy's presence information,
A synchronous means to receive the presence information of said user's new buddy and a buddy's identifier which were set up from the 2nd client which said user operates from said computer after the display by said buddy list display means,
A renewal means of a buddy list to display said new buddy's presence information,
******** presence reference equipment is offered.
[0013]
Invention 8 is a presence reference program for operating the computer as the 1st client which a user operates,
The connecting means linked to the computer which manages the presence information of the buddy who is 1 said user gets interested in, or two or more of other users,
A buddy list display means to receive said buddy's identifier and its presence information from said computer, and to display said buddy's presence information,
a synchronous means to receive the presence information of said user's new buddy and a buddy's identifier which were set up from the 2nd client which said user operates from said computer after the display by said buddy list display means -- and
A renewal means of a buddy list to display said new buddy's presence information,
The presence reference program as which it carries out and said computer is operated is offered.
[0014]
Invention 9 is a record medium which recorded the presence reference program used for the 1st client which a user operates and in which computer reading is possible,
The connection step linked to the computer which manages the presence information of the buddy who is 1 said user gets interested in, or two or more of other users,
The buddy list display step which receives said buddy's identifier and its presence information from said computer, and displays said buddy's presence information,
The synchronous step which receives the presence information of said user's new buddy and a buddy's identifier which were set up from the 2nd client which said user operates from said computer after said buddy list display step,
The record medium which recorded the presence reference program for performing the renewal step of a buddy list which displays said new buddy's presence information and in which computer reading is possible is offered.
[0015]
Invention 10 is the presence reference approach used for the 1st client which a user operates,
The connection step linked to the computer which manages the presence information of the buddy who is 1 said user gets interested in, or two or more of other users,
The buddy list setting step which receives assignment of a buddy's identifier, and/or a setup of the attribute information about each buddy of said buddy list, and transmits a buddy's identifier and attribute information to said computer,
The ****** presence reference approach is offered.

[0016]
[Embodiment of the Invention]
<The example of the 1st operation gestalt>
(1) Whole configuration
Drawing 1 is the schematic diagram of the presence system concerning the example of the 1st operation gestalt of this invention. client 2a of a server 1 and plurality, and 2b ... is included. [system / this / presence] client 2a and 2b ... and a server 1 are connected by the network 3 containing the Internet, intranet, a mobile communication network, etc. each client 2a and 2b ... the user agents A and B -- it is operated by ... In this presence system, the one user agent's A client 2a is 1 or two or more clients two a1, two a2, and two a3. For example, the user agent A may operate the PDA terminal two a1, the PC terminal two a2, and a cellular phone two a3 as client 2a. Below, 1 or two or more clients of the user agent A of arbitration are collectively called client 2a.
[0017]
In this presence system, all of two or more clients two a1 of the user agent A, two a2, and two a3 may have connected with a server 1. Even if it is that case, buddy and its presence information of the user agent A displayed on each client two a1, two a2, and two a3 synchronize. Moreover, as for attribute information other than a buddy, for example, a buddy's display attribute information, synchronizing among two or more clients is desirable.
Below, all the user agent's A clients two a1, two a2, and two a3 explain the function of a server 1 and a client 2 on the assumption that it has connected with a server 1.
(2) A server and a client
Drawing 2 is the block diagram showing the functional configuration of a server 1 and a client 2. The server 1 and the client 2 have two or more modules and tables. Below, sequential explanation is given about each module and a table.
[0018]
(2-1) Primitive operation
The server 1 has the client table 10, the buddy list 11, the watcher table 12, the presence table 13, the request processing module 14, and the notice module 15 of presence for the primitive operation as a server in a presence system. Moreover, the client 2 has the request module 21 and the presence display module 22 for the primitive operation as a client on a presence system. The primitive operation made with these tables and modules divides roughly, and is "setting processing of presence", "setting processing of a buddy", "display processing of presence", and "notice processing of presence."
First, "setting processing of presence" is performed as follows. It is transmitted to the request processing module 14 from the request module 21, and the presence information of the user agent A of arbitration is memorized by the presence table 13. It is good to memorize collectively the time to which presence information was set on the presence table 13. The request module 21 may generate new presence information automatically, and the user agent A may input it.
[0019]
"Setting processing of a buddy" is performed as follows. The user agent A specifies other user agents he wants to refer to the condition, i.e., a buddy's user ID, (henceforth Buddy ID). It is transmitted to the request processing module 14 from the request module 21, and Buddy ID is memorized by the buddy list 11. A buddy setting command, for example, "SUBSCRIBE", is used for transmission of Buddy ID. On the other hand, the user agent's A user ID is memorized by the watcher table 12 as ID of the watcher of the buddy who specified. About the example of the

buddy list 11 and the watcher table 12, it mentions later. It precedes adding a new watcher to the watcher table 12, and you may check whether the notice of presence information is permitted to a new watcher to the buddy who becomes a presentation tee tee. In addition, user ID is an identifier for a server 1 to identify each user agent on a presence system.
[0020]
"Display processing of presence" is performed as follows. The user agent's A user ID and presence information of a buddy are transmitted to client 2a of the arbitration linked to a server 1. Specifically, user agent's A buddy's ID is read from the buddy list 11 with the notice module 15 of presence. Subsequently, each buddy's presence information is read from the presence table 3 with the notice module 15 of presence. Buddy ID and presence information which were read are transmitted to client 2a by the notice command of presence, for example, "NOTIFY." The presence information of each transmitted buddy is displayed on client 2a with the presence display module 22.
"Notice processing of presence" is performed as follows. When the presence information of the user agent A of arbitration is updated, the presence information is read from the presence table 3 with the notice module 15 of presence. Subsequently, the user agent's A watcher ID is extracted from the watcher table 12. The user agent's A new presence information is transmitted to a watcher's extracted client 2. Notice commands of presence, such as "NOTIFY", are used for this notice of presence like the above-mentioned. The notified presence information is displayed as a buddy's new presence information with the presence display module 22. In addition, each client 2 of a watcher is extracted from the client table 10. The client table 10 has matched and memorized a user agent's client ID specified by user ID and its user ID.
[0021]
(2-2) Setting processing of attribute information
In this presence system, the user agent A of arbitration can set the attribute information about a buddy as a server 1. Here, taking the case of the display attribute information on a buddy list, it explains as attribute information. In order to set up display attribute information, a server 1 has the attribute information extract module 16, and the client 2 has the attribute information setting module 23, respectively. The function of each module is explained below.
[Buddy setting message]
Drawing 3 is the example of a format of a buddy setting message. A buddy setting message is generated by the request module 21, and is sent to a server 1. Usually, a buddy setting message is generated by the request module 21 including a buddy setting command "SUBSCRIBE" and buddy list information. In this buddy setting message, display attribute information is further embedded with the attribute information setting module 23.
[0022]
A buddy setting command "SUBSCRIBE" shows that it is the message which is demanding a setup of a buddy to a server. Buddy list information contains Buddy ID and Watcher ID. Buddy ID shows a user agent's identifier specified as the buddy here. Watcher ID shows the identifier of the user agent of a requiring agency. Display attribute information includes the buddy's "display name" and the "classification name" which shows a classification of the buddy who saw from the watcher in this example.
[Processing of a server (attribute information extract module)]
The display attribute information in a buddy setting message is extracted by the attribute information extract module 16, and is written in into the buddy list 11. Drawing 4 is the conceptual explanatory view showing the information accumulated in the buddy list 11. The

buddy list 11 has memorized buddy list information and display attribute information. Specifically, Watcher ID, Buddy ID, the display name, and the classification are memorized by one record. It is shown that, as for the user agent A (user ID: User-A@fujitsu.com), this drawing has set as a buddy the four user agent displayed by the display name of "shingo", "ohno", "okuyama", and "kakuta."

[0023]

Moreover, drawing 5 shows the conceptual explanatory view of the watcher table 12. As mentioned above, the watcher table 12 is created based on said buddy setting message. The watcher table 12 contains the presentation tee tee ID and Watcher ID in one record. The buddy ID in a buddy setting message is written in as a presentation tee tee ID. The watcher ID on a buddy setting message is memorized by the watcher table 12 as a watcher ID.

(2-3) Synchronous processing of a buddy list

In this presence system, the one user agent A synchronizes the display of a buddy list among two or more clients operated to coincidence. For this synchronization, a server 1 has the notice module 17 of a buddy list, and the client 2 has the buddy list synchronous module 24, respectively. The function of these modules is explained below.

[0024]

[Presence informative message]

Drawing 6 is the example of a format of a presence informative message. A presence informative message is generated by the notice module 15 of presence of a server 1. This message includes the notice command of presence "NOTIFY", buddy list information, and presence information. At the presence informative message of drawing 6 , a buddy's display attribute information is further embedded with the notice module 17 of a buddy list. Display attribute information is information which the watcher has set as each buddy, and is read from the buddy list 11. In addition, various attribute information not only about display attribute information but a user agent can be embedded at a presence informative message.

[0025]

(2-3-1) Notice processing of a new buddy

Said presence informative message is used for "notice processing of a new buddy" and "notice processing of updating of display attribute information" other than the notice processing of presence of said primitive operation. First, "notice processing of a new buddy" is explained.

[Processing of a server (notice module of a buddy list)]

In order to give explanation easy, suppose that the user agent A used the client two a1, and added Buddy B (display name: Mr. Fukui) to the buddy list. Buddy B is memorized by the buddy list 11 as the user agent's B buddy. Moreover, the user agent A is memorized by the watcher table 12 as Buddy's B watcher. Subsequently, Buddy's B new presence information is notified by the presence informative message. Notice places are the client two a1 under connection of the user agent A, two a2, and two a3. This presence informative message is generated by directions of the notice module 17 of a buddy list.

[0026]

[Processing of a client (buddy list synchronous module)]

The next processing is performed in the client two a1 which received the presence informative message, two a2, and two a3. First, buddy list information is extracted from a presence informative message, and it is judged whether the buddy was newly added. In other words, the buddy list synchronous module 24 compares ID of the buddy as whom the presence information is already displayed with a buddy's notified ID, and it judges whether the buddy was added or

not. If the buddy ID in a presence informative message is the new buddy ID, said message will be interpreted as a new buddy's notice. Then, an additional indication of the buddy's display name and its presence information is given. Thereby, when the user agent A of arbitration adds Buddy B using a client two a1, Buddy's B presence information comes to be displayed on a client two a1, two a2, and two a3.

[0027]

(2-3-2) Notice processing of updating of a display attribute

[Processing of a server (notice module of a buddy list)]

Next, "notice processing of updating of a display attribute" is explained. In order to give explanation easy, the user agent A uses a client two a1, and suppose that Buddy's B display attribute information was updated. For example, Buddy's B display name presupposes that it was updated by "fukui" from "Mr. Fukui." A new display name "fukui" is written in the buddy list 11 with the request processing module 14. Subsequently, Buddy's B new display name is notified by the presence informative message. Notice places are a client two a1, two a2, and two a3 at least. This presence informative message is generated by directions of the notice module 17 of a buddy list.

[0028]

[Processing of a client (buddy list synchronous module)]

In a client two a1, two a2, and two a3, a judgment of being "a new buddy's notice" is made like the above-mentioned. Then, if it is not a new buddy's notice, it will be judged whether the display attribute information of the buddy B in a presence informative message was updated. A buddy's display attribute information currently displayed by the presence display is memorized with the buddy list synchronous module 24. If updated, said message will be judged to be "a notice of updating of display attribute information." Consequently, Buddy's B presence display is updated based on new display attribute information. Therefore, two a1 of the user agent A, two a2, and two a3 come to express Buddy B as a new display name. In addition, if display attribute information is Buddy's B classification name, Buddy B will come to be displayed as one of the buddies belonging to a new classification.

[0029]

[The example of a screen]

Drawing 7 is an example of screen transition which shows the synchronization of the buddy list between two or more clients two a1, two a2, and two a3. This drawing (a) shows the buddy list display screen as an example of a presence display. This screen shall be now displayed temporarily on three clients two a1 of the user agent A, two a2, and two a3. This drawing (b) shows an example of a buddy's setting screen. This drawing shows that the new buddy B (display name: Mr. Fukui) was set up on the client two a1. This drawing (c) is the new buddy list display screen. A server 1 notifies Buddy's B presence information and display attribute information which were newly set up to the user agent's A client two a1, two a2, and two a3. In other words, a presence informative message is transmitted to these three clients. Therefore, on these three clients, an additional indication of the presence information of "Mr. Fukui" will be given.

[0030]

Drawing 8 is an example of screen transition which shows that not only a buddy but display attribute information synchronizes. This drawing (a) is the example of the display screen of the buddy list of [on client / of the user agent A / two a1, two a2, and 2a3]. This drawing (b) is the example of a setting screen of display attribute information. This drawing shows what Buddy's B

display name "shingo" was changed for by "Shingo Fujimoto" on the client two a1. This drawing (c) is the buddy list display screen displayed on client two a1, two a2, and 2a3 after modification of display attribute information. Buddy's B display name is changed by "Shingo Fujimoto."
(2-4) Re-connection processing
The connection between a server 1 and a client 2 may break off, when it breaks off according to the bad condition of a network 3 or the power source of a client 2 becomes off. In this presence system, when one client two a1 of the user agents A has connected with a server 1, other clients two a2, and two a3 and a presence display synchronize. For this processing, a server 1 has the re-connection detection module 18, and the client 2 has the re-connection module 25, respectively. The function of each module is explained below.
[0031]
(2-4-1) Re-connection processing
[Re-connection message]
Drawing 9 (a) and (b) show the example of a format of a re-connection message. A re-connection message is generated by the re-connection module 25, and is transmitted to a server 1 with the request module 21.
This drawing (a) is the example of a format of a re-connection message (Type 1) without a time stump. The re-connection message contains the command "LOGON" which shows a re-connection request, and requiring agency user ID.
This drawing (b) is the example of a format of a re-connection message (Type 2) with a time stump. This message contains the time stump further. This message is generated in order to acquire the presence information of the buddy who changed after the time amount shown with the time stump. A time stump is not information indispensable in a re-connection message. For example, since it thinks that it is better to acquire all buddies' presence information when re-connecting after long time amount connection has run out, the time stump is unnecessary. A time stump is effective when the server 1 and the client 2 have connected by UDP (User datagram protocol) conversely. For example, when a server 1 to a communication link cannot be found 30 minutes or more, it is possible that a client 2 transmits a re-connection message (Type 2) to a server 1.
[0032]
[Processing of a server (re-connection detection module)]
This drawing (c) is a conceptual explanatory view of the presence informative message to a re-connection message. The same information as the presence informative message shown in said drawing 16 is making it contain also in this presence informative message. The presence information of all the buddies of the user agent A extracted based on the re-connection message or some buddies etc. is transmitted to a client 2 from a server 1. For example, detection of a re-connection message (Type 1) transmits the user agent's A presence information and display attribute information of all buddies to a client two a1 </SUB>, two a2, and two a3. Detection of a re-connection message (Type 2) with a time stump transmits a part of the user agent's A presence information and display attribute information of a buddy to a client two a1, two a2, and two a3. Some buddies are buddies who have the presence information set up after the time amount shown with the time stump. Detection of a re-connection message and directions of transmission of a presence informative message are performed by the re-connection detection module 18.
[0033]
[The example of a screen]

Drawing 10 is an example of the buddy list display screen displayed on the re-connected client two a1. Here, the example of a screen when a client two a1 transmits a re-connection message (Type 1) is shown. This drawing (a) shows the example of a screen immediately after starting. The client two a1 does not acquire any presence information of a buddy and display attribute information immediately after starting at the beginning, either. This drawing (b) is an example of the buddy list display screen in the middle of acquiring a buddy's presence information etc. from the server 1. This drawing (c) is an example of the buddy list display screen in the condition of having acquired all buddies' presence information and display attribute information.

(2-4-2) Watcher re-registration processing (re-connection detection module)

By the way, when the period which the user agent A does not connect to a server 1 from which client two a1, two a2, and two a3, either is too much long, the user agent A may be deleted from the watcher table 12. It is because the notice of presence to the user agent A who does not use this system for a long period of time is the futility of a network resource. However, when the user agent A deleted from the watcher table 12 re-connects, it is desirable to resume the notice of presence to the user agent A. Furthermore, in resuming the notice of presence to the user agent A, it is desirable to obtain consent to a presentation tee tee. Even if it is the presentation tee tee which consented to notify the user agent A of its presence information before, it is because mind may have changed by the passage of time.

[0034]

In addition, depending on a presence system, the access level of the presence information on each presentation tee tee may be able to be set as the presence table 13. In that case, it can judge whether the restart of the notice of presence is possible, without carrying out said check to a presentation tee tee.

The restart of the notice of presence to the user agent A who re-connected becomes possible by re-registering the user agent's A user ID into the watcher table 12. Re-registration is performed by the re-connection detection module 18. The buddy list 11 of user agents A can determine the user agent's A presentation tee tee. Drawing 10 (d) is an example of a screen which shows that the notice of presence is transmitted on client 2a after re-connection. By the restart of the notice of presence, the user agent A can know now the newest presence information of not only the presence information of the buddy at the time of re-connection but the buddy after it.

[0035]

(2-4-3) Buddy reexamination processing (re-connection detection module)

In said watcher re-registration processing, the buddy judged that the restart of the notice of presence to the user agent A is impossible may be deleted from the buddy list of user agents A. Thereby, the memory resource in a server 1 can be used effectively. The re-connection detection module 18 performs deletion of a buddy.

(2-4-5) Overall processing at the time of re-connection

Drawing 11 is the explanatory view showing the flow of the overall processing at the time of re-connection. A re-connection message is first transmitted from a client 2 to a server 1. A re-connection message is passed to the re-connection detection module 18 from the request processing module 14 (#1). Subsequently, a re-connection message is interpreted and the buddy list information on a client two a1 is read from a buddy list (#2, #3). Subsequently, that check of how which may give a presence notice to a buddy depending on a system is performed (#4). Then, about the buddy who answered that may give a presence notice, the user agent A is registered into the watcher table 12 as the buddy's watcher (#(watcher re-registration

processing) 5).
[0036]
About the buddy from whom the user agent A became a watcher again, the presence information is read from the presence table 13 (#6). If the re-connection message contains the time stump, the presence information set up after the time amount shown with the time stump and its display attribute information will be read from the presence table 13 (#6). Subsequently, a presence informative message including presence information, buddy list information, and display attribute information is transmitted to a client two a1 from the notice module 15 of presence (#7).
About the buddy who did not permit the notice of presence, the buddy may be deleted from the buddy list of user agents A (#(buddy reexamination processing) 8). Moreover, you may notify that the user agent A was no longer the buddy's watcher to a client two a1, two a2, and two a3 (#9). The transmission of a watch discharge message mentioned later can perform this notice.
[0037]
(2-5) Watch discharge processing
On a presence system, the distribution relation of presence information may be canceled on account of a server 1. In this case, you may notify that the presence information on a presentation tee tee is no longer distributed to a watcher. This notice is performed by transmitting a watch discharge message to a client 2 from a server 1. For transmission and reception of this message, a server 1 has the watcher discharge module 110, and the client 2 has the watch discharge module 26, respectively.
[Watch discharge message]
Drawing 12 (a) is the example of a format of a watch discharge message. This message is generated by the watcher discharge module 110, and is transmitted to a client 2 with the notice module 15 of presence. In addition to the notice command of presence "NOTIFY", and buddy list information, a watch discharge message contains a discharge command "Subscription-State:terminated." A discharge command shows that a buddy's notice of presence specified by the buddy ID in buddy list information was canceled.
[0038]
[Processing of a client (watch discharge module)]
Drawing 12 (b) and (c) show an example of change of the buddy list display screen by the watch discharge module 26. The buddy list display screen of this drawing (b) shows the buddy list display screen before watch discharge message reception. This drawing (c) shows the buddy list display screen after watch discharge message reception. After watch discharge message reception, presenting of the presence information is deleted with the buddy deleted from the buddy list. Change of this display screen is performed as follows. First, a watch discharge message is passed to the watch discharge module 26, and the buddy who should delete determines it. Subsequently, deletion of a display of the buddy is directed to the presence display module 22. Furthermore, the information of the buddy who corresponds with directions of the watch discharge module 26 from the buddy list information and display attribute information which the buddy list synchronous module 24 has memorized is deleted.
[0039]
In the example of the watch discharge message of drawing 12 (a), it has canceled that the user agent A of user ID:user-A@im.jp.fujitsu.com refers to the presence information of the user (display name: Mr. Fukui) of user ID:mfukui@im.jp.fujitsu.com. For this reason, after watch discharge message reception, the buddy "Mr. Fukui" currently displayed by drawing 12 (b) and

its presence information are deleted from the buddy list, as shown in drawing 12 (c).
(2-6) Security strengthening processing
On a presence system, the presence information of user agents other than the user agent's A buddy may be transmitted to client 2a. When performing such a notice of presence, it is desirable that a server 1 warns client 2a of it being the notice of presence of user agents C other than a buddy. Moreover, as for client 2a which received warning, it is desirable to perform processing according to warning. For example, client 2a can notify the user agent A of warning, or can disregard such a notice of presence. In order to perform such processing, a server 1 has the security strengthening module 111, and the client 2 has the security module 27, respectively.

[0040]
[Warning message]
Drawing 13 (a) shows the example of a format of a warning message. A warning message is generated by the security strengthening module 111, and is transmitted to a client 2 with the notice module 15 of presence. In addition to the notice command of presence "NOTIFY", buddy list information, and presence information, a warning message contains a warning command "X-Warning:not-requested." The user ID of the user agent C who is not the user agent's A buddy is contained in buddy list information.
[Processing of a client (security module)]
Drawing 13 (b) shows an example of the alarm display screen which KURAINTO 2a which received said warning message displays. The warning command in a warning message is extracted by the security module 27. Then, selection of whether to set the user agent C as a new buddy is received with an alarm display screen. When a setup is chosen, the buddy setting message which sets the user agent C as a buddy is transmitted to a server 1. When a setup is not chosen, the user agent's C notice of presence may be disregarded. By this function, the unknown user agent C can be added to a buddy list unawares, or it can prevent displaying that presence information on a target on the other hand.
[0041]
(3) Flow of processing
[Server]
Drawing 14 is a flow chart which shows the flow of the main processings which a server 1 performs. A server 1 performs predetermined processing ignited by generating of a predetermined event.
Steps S1, S2, and S3: A server 1 stores this in the presence table 13, if new presence information is received from one of the clients 2 (S1) (S2). Moreover, a server 1 specifies the user agent corresponding to a client 2 from the client table 10, and transmits the notice of presence to the client 2 of the user agent's watcher (S3).
Step S4-S7: A server 1 will update (S4), the buddy list 11, and the watcher table 12, if a buddy setting message is received from one of the clients 2 (S5, S6). When a new buddy is not added, it is not necessary to update the watcher table 12. Subsequently, all the clients of the user agent corresponding to the client 2 are extracted from the client table 10, and a buddy's notice of presence is transmitted to the extracted client (S7). This notice of presence has the case of the above-mentioned "a new buddy's notice", and the case of "a notice of updating of display attribute information."
[0042]
Step S8, S9: A server 1 will read a user agent's presence information and display attribute

information of a buddy corresponding to the client 2 from the buddy list 11, if a re-connection request is received from one of the clients 2 (S8). Subsequently, the notice of presence is transmitted to the client of a requiring agency (S9).
Steps S10 and S11: A server 1 transmits a watch discharge message to a client 2, when deleting one of user agents' buddy (S10) (S11). Transmission places are all the clients corresponding to said user agent.
Steps S12 and S13: A server 1 transmits a warning message, when performing the notice of presence of user agents other than a buddy to one of user agents' client 2 (S12) (S13).
[0043]
[Client]
Drawing 15 is a flow chart which shows the flow of processing when a client 2 receives the notice command of presence "NOTIFY" from a server 1.
Steps S21, S22, S23, and S24: A client 2 will judge whether the warning command is added to the notice command of presence, if the notice command of presence is received (S21) (S22). A client 2 may display a check window, when the warning command is added (S23). This check window receives from an operator selection of whether to set the owner of the presence information included in the presence informative message as a buddy (S24).
Steps S25 and S26: If "it is set as a buddy" is chosen at said step S24, a client 2 will judge whether the discharge command is added to the notice command of presence (S25). When the discharge command is added, a client 2 may delete the display with the buddy notified with the notice command of presence, and its presence information (S26).
[0044]
Steps S27 and S28: A client 2 judges whether a new buddy was notified, or it could creep and that buddy's new presence information was notified (S27). When a new buddy is notified, a new buddy is displayed on a buddy list screen (S28).
Steps S29, S30, and S31: A client 2 updates the display gestalt of a buddy list screen, when a buddy's display attribute information is updated (S29) (S30). Then, the presence information notified with the notice command of presence is displayed on a buddy list screen (S31).
With this operation gestalt, a buddy's notice of presence, a new buddy's notice, notice of display attribute information, notice of discharge of a buddy, and warning are performed using the notice command of presence "NOTIFY." The timing of a notice is a time of being the notice of presence of an unknown presentation tee tee, respectively, when a buddy is canceled at the time of renewal of display attribute information at the time of a setup of a new buddy at the time of renewal of a buddy's presence information. Thereby, when one user is using two or more terminals on a presence system, the buddy list which changes dynamically can be synchronized between terminals. Moreover, it is expressed as the same gestalt, without the display gestalt of a buddy list varying between terminals.
[0045]
<The other examples of an operation gestalt>
(A) Attribute information is not limited to display attribute information. For example, a watch discharge command is the attribute information about the user agent who is going to be deleted from the buddy list. Moreover, a warning command is the attribute information about the owner of presence information by whom a warning command is transmitted. Besides these, the various attribute information about a user agent can be transmitted with the notice command of presence if needed.
(B) The record medium which recorded the program which performs the approach of this

invention mentioned above is contained in this invention. As a record medium, the thing of the flexible disk which can write a computer, a hard disk, semiconductor memory, CD-ROM, DVD, a magneto-optic disk (MO), and others is mentioned here.
<Additional remark>
(Additional remark 1)
It is the presence management method used for the presence management equipment which manages the presence information on the user group which operates a client group,
The presence management step which receives a setup of each user's presence information included in said user group, and manages this,
The client storage step which memorizes the identifier of 1 or two or more clients of each user which are contained in said user group,
The distribution place storage step which memorizes the identifier (henceforth a distribution place list) of the distribution place user each user's presence information included in said user group,
The buddy list storage step which memorizes the identifier (henceforth a buddy list) of the buddy who is 1 each user contained in said user group gets interested in, or two or more of other users,
The renewal step of a buddy list which updates the distribution place list which received renewal of the buddy list of the 1st user included in said user group from one which said 1st user operates of clients, and has memorized it at said distribution place storage step according to the contents of updating, and the buddy list memorized at said buddy list storage step,
The buddy list synchronous step which transmits said buddy's identifier to said thing under connection with presence management equipment among said 1st user's clients with a buddy's added presence information when it judges whether the buddy was added at said renewal step of a buddy list and a buddy is added,
****** presence management method.
[0046]
This approach is used for the server of a presence system. Temporarily, suppose "The user agent A is operating two or more clients c1, c2, and c3." Moreover, suppose, "The user agent A added the new buddy B to the buddy list on the client c1." A server notifies Buddy's B presence information, and Buddy's B ID to clients c1, c2, and c3. Thereby, in addition to a client c1, clients c2 and c3 recognize that Buddy B turned into a new buddy, and display Buddy's B presence information. Thus, in the situation that one user is operating two or more clients, even if a buddy list changes dynamically, the buddy list of each terminals can be synchronized with real time.
[0047]
(Additional remark 2)
Said buddy list synchronous step is a presence management method given in the additional remark 1 which transmits the attribute information about one which is contained in said user group of users to the thing under said connection with presence management equipment among said 1st user's clients using the command for notifying presence information.
With attribute information, "a notice which stops distribution of a buddy's presence information" is mentioned here. Moreover, as an example of another attribute information, "a notice of having distributed a user's presence information which is not specified as a buddy" is mentioned. As an example of still more nearly another attribute information, the display attribute information for displaying a buddy's presence can be mentioned.
[0048]

(Additional remark 3)
Said buddy list storage step memorizes the attribute information about each buddy contained in said buddy list with each buddy,
Said renewal step of a buddy list receives further a setup of the attribute information about each buddy contained in said buddy list,
When said buddy list synchronous step judges whether one of buddies' attribute information was set up and attribute information is set up, the attribute information about said buddy's identifier and said buddy is transmitted to all the clients that said 1st user operates with the buddy's presence information,
A presence management method given in additional remark 1.
[0049]
For example, when a buddy is added, the added buddy and its attribute information are transmitted to the user agent's A client using the notice command of presence. For example, if attribute information is the display attribute information about the display of a buddy list, in all clients, a buddy list will be expressed as the same display gestalt.
Moreover, although the buddy list itself is not updated, a buddy's display attribute information may be updated by the client c1. In that case, the buddy's display attribute information is notified to the user agent's A remaining clients c2 and c3 by the notice command of presence. Thus, not only a buddy but the display gestalt can be synchronized.
(Additional remark 4)
the [which detects the re-connection request from one client of said 1st user, and transmits said 1st user's identifier and presence information of all buddies to said client according to a re-connection request] -- a presence management method given in the additional remark 1 which contains 1 re-connection detection step further.
[0050]
For example, a client c1 presupposes that it rebooted and the "LOGON" command was transmitted to the server among the user agent's A clients c1, c2, and c3. A server transmits the buddy list of user agents A, and each buddy's presence information to a client c1 using the notice command of presence. Thereby, the client c1 which rebooted can display the same buddy list as other clients c2 and c3.
(Additional remark 5)
In addition to each user's presence information, said presence storage step memorizes the setup time of presence information further,
the [which transmits a buddy's identifier and presence information that detected the re-connection request containing the last connect time from one client of said 1st user, and presence information changed after said last connect time among said 1st user's buddies to said client] -- a presence management method given in the additional remark 1 which contains 2 re-connection detection step further.
[0051]
This approach notifies a buddy's presence information that presence information changed to the re-connected client c1, while connection was interrupted. For example, if there is no communication link from a server 30 minutes or more when a client and a server communicate using UDP, a client will transmit a re-connection request. A re-connection request includes the time amount with which the server communicated at the end to the client. A server transmits identifier and its presence information of a buddy with the presence information set up after the specified time amount to a client using the notice command of presence. Compared with the

case where the presence information of all the buddies of the user agent who has re-connected is transmitted, the load of a server is mitigable.
(Additional remark 6)
The log off storage step which memorizes the most newest time amount (henceforth log off time amount) among the time amount which 1 or two or more clients of each user contained in said user group had connected to said presence management equipment at the end,
The distribution discharge step which deletes the identifier of the 1st user to whom fixed time amount has passed since said log off time amount from the distribution place list memorized at said distribution place storage step,
The distribution place restoration step which writes said 1st user's identifier in a distribution place list again as a distribution place of the presence information said 1st user's buddy when it is judged that it judges whether said 1st user is deleted from said distribution place list, and is deleted when one client of said 1st user connects with said presence management equipment,
A presence management method given in the additional remark 1 included in a pan.
[0052]
The user agent A who had not connected with presence management equipment for a long time is deleted from a distribution place. When such a user agent A has connected again, a server sets the user agent A as a buddy's watcher again based on the buddy list of user agents A. Said user agent A can acquire now the notice of updating of a buddy's presence information again.
(Additional remark 7)
Said distribution place restoration step is a presence management method given in the additional remark 6 which performs the check of whether to permit distributing presence information to said 1st user to each buddy, and deletes a buddy's identifier which is not permitted from the buddy list of said 1st user.
[0053]
The user agent B who was the user agent's A buddy may change his mind by the passage of time, and may not permit the notice of presence information to the user agent A. In this case, a server deletes Buddy B from the buddy list of user agents A. Thereby, the memory resource of a server is effectively utilizable.
(Additional remark 8)
A presence management method given in the additional remark 1 which judges whether the identifier of the buddy of at least 1 is deleted from the buddy list of said 1st user, and notifies the identifier of the buddy who deletes, and the deletion message replaced with the buddy's presence information to the thing under connection among said 1st user's clients when deleting.
[0054]
For example, the case where a buddy is deleted in said 7th invention, and presence management equipment may delete distribution relation. In that case, a buddy's identifier and deletion message which are deleted are notified to a client using the notice command of presence. A client has the advantage which does not need to display vainly the buddy who will not be notified of renewal of presence information.
(Additional remark 9)
Said buddy list synchronous step precedes transmitting the 2nd user's presence information included in said user group to said 1st user's client. It judges whether said 2nd user's identifier is contained in the buddy list of said 1st user. A presence management method given in the additional remark 1 which transmits a warning message to the thing under said connection with presence management equipment among said 1st user's clients in addition to said 2nd user's

identifier and its presence information when not contained.
[0055]
Specifically, user agents X other than the user agent's A buddy may transmit their presence information to the user agent A. In this case, in addition to the user agent's X identifier and its presence information, a server transmits a warning message using the notice command of presence. A client can check whether the user agent X is added to a buddy based on a warning message. Or a client can also disregard the notice of the user agent's X presence information based on a warning message. Therefore, for the user agent A, it is lost that the unknown user agent's X presence information is shown to a target on the other hand.
(Additional remark 10)
It is presence management equipment which manages the presence information on the user group which operates a client group,
The presence management tool which receives a setup of each user's presence information included in said user group, and manages this,
A client storage means to memorize the identifier of 1 or two or more clients of each user which are contained in said user group,
A distribution place storage means to memorize the identifier (henceforth a distribution place list) of the distribution place user each user's presence information included in said user group,
A buddy list storage means to memorize the identifier (henceforth a buddy list) of the buddy who is 1 each user contained in said user group gets interested in, or two or more of other users,
A renewal means of a buddy list update the distribution place list which received renewal of the buddy list of the 1st user included in said user group from one which said 1st user operates of clients, and has memorized it with said distribution place storage means according to the contents of updating, and the buddy list memorized with said buddy list storage means,
A buddy list synchronous means to transmit said buddy's identifier to said thing under connection with presence management equipment among said 1st user's clients with a buddy's added presence information when it judges whether the buddy was added with said renewal means of a buddy list and a buddy is added,
******** presence management equipment.
[0056]
(Additional remark 11)
It is a presence manager for operating the computer which manages the presence information on the user group which operates a client group,
The presence management tool which receives a setup of each user's presence information included in said user group, and manages this,
A client storage means to memorize the identifier of 1 or two or more clients of each user which are contained in said user group,
A distribution place storage means to memorize the identifier (henceforth a distribution place list) of the distribution place user each user's presence information included in said user group,
A buddy list storage means to memorize the identifier (henceforth a buddy list) of the buddy who is 1 each user contained in said user group gets interested in, or two or more of other users,
a renewal means of a buddy list update the distribution place list which received renewal of the buddy list of the 1st user included in said user group from one which said 1st user operates of clients, and has memorized it with said distribution place storage means according to the contents of updating, and the buddy list memorized with said buddy list storage means -- and
A buddy list synchronous means to transmit said buddy's identifier to the thing under said

connection with presence management equipment among said 1st user's clients with a buddy's added presence information when it judges whether the buddy was added with said renewal means of a buddy list and a buddy is added,
The presence manager as which it carries out and said computer is operated.
[0057]
(Additional remark 12)
It is the record medium which recorded the presence manager which manages the presence information on the user group which operates a client group and in which computer reading is possible,
The presence management step which receives a setup of each user's presence information included in said user group, and manages this,
The client storage step which memorizes the identifier of 1 or two or more clients of each user which are contained in said user group,
The distribution place storage step which memorizes the identifier (henceforth a distribution place list) of the distribution place user each user's presence information included in said user group,
The buddy list storage step which memorizes the identifier (henceforth a buddy list) of the buddy who is 1 each user contained in said user group gets interested in, or two or more of other users,
The renewal step of a buddy list which updates the distribution place list which received renewal of the buddy list of the 1st user included in said user group from one which said 1st user operates of clients, and has memorized it at said distribution place storage step according to the contents of updating, and the buddy list memorized at said buddy list storage step,
The buddy list synchronous step which transmits said buddy's identifier to said thing under connection with presence management equipment among said 1st user's clients with a buddy's added presence information when it judges whether the buddy was added at said renewal step of a buddy list and a buddy is added,
The record medium which recorded the presence manager for performing and in which computer reading is possible.
[0058]
(Additional remark 13)
It is the presence reference approach used for the 1st client which a user operates,
The connection step linked to the computer which manages the presence information of the buddy who is 1 said user gets interested in, or two or more of other users,
The buddy list display step which receives said buddy's identifier and its presence information from said computer, and displays said buddy's presence information,
The synchronous step which receives the presence information of said user's new buddy and a buddy's identifier which were set up from the 2nd client which said user operates from said computer after said buddy list display step,
The renewal step of a buddy list which displays said new buddy's presence information,
******, the presence reference approach.
[0059]
The client c2 of the presence system using this approach receives from a server presence information and identifier of the new buddy B of the user agent A set up by another client c1.
Then, a client c2 displays the presence information of the same buddy as a client c1.
(Additional remark 14)

In addition to said buddy's presence information and identifier, said synchronous step receives the attribute information about said buddy further,
Said renewal step of a buddy list updates the display about said one of buddies, and/or the display about presence information based on said attribute information,
The presence reference approach given in additional remark 13.
[0060]
The client c2 of the presence system using this approach receives from a server the new buddy's B presence information, its identifier, and display attribute information of the user agent A set up by another client c1. Then, a client c2 displays Buddy's B presence information for example, according to attribute information. Consequently, the buddy list in clients c1 and c2 comes to synchronize also including a display gestalt.
(Additional remark 15)
The time amount storage step which memorizes the time amount (henceforth the last connect time) which communicated at said computer and last,
The buddy list re-acquisition step which acquires identifier and its presence information of the buddy from whom said last connect time was notified to said computer, and presence information changed after said last connect time among said 1st user's buddies after said buddy list display step from said computer,
The presence reference approach given in the additional remark 13 included in a pan.
[0061]
For example, suppose that the server and the client are communicating using UDP. A client can acquire the presence of the buddy who is the owner of presence information who changed while connection had run out, when it can be guessed that the connection with a server went out.
(Additional remark 16)
The presence reference approach given in the additional remark 13 which receives the identifier of one buddy of said users, and the deletion message replaced with the buddy's presence information from said computer after said buddy list display step, and contains further the buddy deletion step which eliminates presenting of said buddy's presence information.
The client which received the deletion message notifies a user agent of having deleted the candidate buddy from the buddy list and the buddy having been deleted.
[0062]
(Additional remark 17)
The presence reference approach given in the additional remark 13 which contains further the warning receiving step which receives the presence information of the 2nd user other than said user's buddy, said 2nd user's identifier, and a warning message from said computer.
For example, the client which received the warning message about the user agent B may display the check window of whether to set for example, the user agent B as a buddy. Moreover, the notice of presence with a warning message may be disregarded.
(Additional remark 18)
The presence reference approach given in the additional remark 17 which contains further the check step which checks whether said 2nd user is added to a buddy after said warning receiving step to said 1st user.
[0063]
For example, when it is permitted that the user agent A adds the user agent B to a buddy, the user agent's B presence information comes to be displayed on the user agent's A client. Conversely, when not granting a permission, the user agent's B presence information is not

displayed on the user agent's A client. Thereby, the user agent A loses, displaying unknown others' presence information on a target on the other hand.
(Additional remark 19)
It is presence reference equipment as the 1st client which a user operates,
The connecting means linked to the computer which manages the presence information of the buddy who is 1 said user gets interested in, or two or more of other users,
A buddy list display means to receive said buddy's identifier and its presence information from said computer, and to display said buddy's presence information,
A synchronous means to receive the presence information of said user's new buddy and a buddy's identifier which were set up from the 2nd client which said user operates from said computer after the display by said buddy list display means,
A renewal means of a buddy list to display said new buddy's presence information,
******** presence reference equipment.
[0064]
(Additional remark 20)
It is a presence reference program for operating the computer as the 1st client which a user operates,
The connecting means linked to the computer which manages the presence information of the buddy who is 1 said user gets interested in, or two or more of other users,
A buddy list display means to receive said buddy's identifier and its presence information from said computer, and to display said buddy's presence information,
a synchronous means to receive the presence information of said user's new buddy and a buddy's identifier which were set up from the 2nd client which said user operates from said computer after the display by said buddy list display means -- and
A renewal means of a buddy list to display said new buddy's presence information,
The presence reference program as which it carries out and said computer is operated.
[0065]
(Additional remark 21)
It is the record medium which recorded the presence reference program used for the 1st client which a user operates and in which computer reading is possible,
The connection step linked to the computer which manages the presence information of the buddy who is 1 said user gets interested in, or two or more of other users,
The buddy list display step which receives said buddy's identifier and its presence information from said computer, and displays said buddy's presence information,
The synchronous step which receives the presence information of said user's new buddy and a buddy's identifier which were set up from the 2nd client which said user operates from said computer after said buddy list display step,
The record medium which recorded the presence reference program for performing the renewal step of a buddy list which displays said new buddy's presence information and in which computer reading is possible.
[0066]
(Additional remark 22)
It is the presence reference approach used for the 1st client which a user operates,
The connection step linked to the computer which manages the presence information of the buddy who is 1 said user gets interested in, or two or more of other users,
The buddy list setting step which receives assignment of a buddy's identifier, and/or a setup of

the attribute information about each buddy of said buddy list, and transmits a buddy's identifier and attribute information to said computer,
******, the presence reference approach.
In addition to the new buddy's B identifier, the user agent's A client c1 transmits the buddy's B attribute information to a server. Buddy's B attribute information is transmitted to a client c1 using the notice of presence.
[0067]
[Effect of the Invention]
If this invention is used, when one user will use two or more terminals on a presence system, the buddy list which changes dynamically can be synchronized between terminals.
[Brief Description of the Drawings]
[Drawing 1] The whole presence system block diagram concerning the example of the 1st operation gestalt.
[Drawing 2] A server and the functional block diagram of a client.
[Drawing 3] The example of a format of a buddy setting message.
[Drawing 4] The explanatory view of the buddy list accumulated in a server.
[Drawing 5] The explanatory view of the watcher table accumulated in a server.
[Drawing 6] The example of a format of a presence informative message.
[Drawing 7] (a) The example of the buddy list display screen (client two a1)
(b) A buddy's example of a setting screen
(c) The example of the buddy list display screen after a new buddy setup (a client two a1, two a2, two a3)
[Drawing 8] (a) The example of the buddy list display screen (a client two a1, two a2, two a3)
(b) The example of the example buddy list display screen of a display attribute setting screen (client two a1)
(c) The example of the buddy list display screen after renewal of a display attribute (a client two a1, two a2, two a3)
[Drawing 9] (a) The example of a format of a re-connection message (Type 1).
(b) The example of a format of a re-connection message (Type 1) with a time stump.
(c) The presence informative message according to a re-connection message
[Drawing 10] (a) The example of the buddy list display screen immediately after starting (client two a1)
(b) The example of the buddy list display screen under presence informative-message reception of drawing 9 (c) (client two a1)
(c) The example of the buddy list display screen after the completion of presence informative-message reception of drawing 9 (c) (client two a1)
(d) The example of the buddy list display screen in which renewal of a buddy's presence information was reflected (client two a1)
[Drawing 11] The explanatory view showing the detailed flow of re-connection processing.
[Drawing 12] (a) The example of a format of a watch discharge message
(b) The example of a buddy list screen before watch discharge message reception
(c) The example of a buddy list screen after watch discharge message reception
[0080]
[Drawing 13] (a) The example of a format of a warning message
(b) The example of an alarm display screen at the time of receiving a warning message
[Drawing 14] The flow chart which shows the flow of the main processings which a server

performs.
[Drawing 15] The flow chart which shows the flow of the processing which the client which received the notice command of presence performs.
[Description of Notations]
1: Server
2: Client

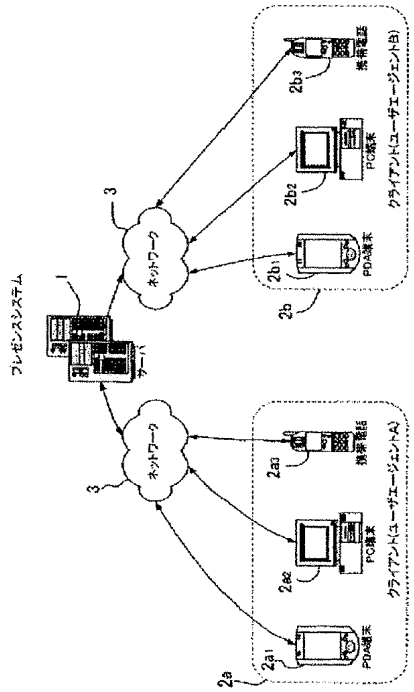
[Translation done.]

* NOTICES *

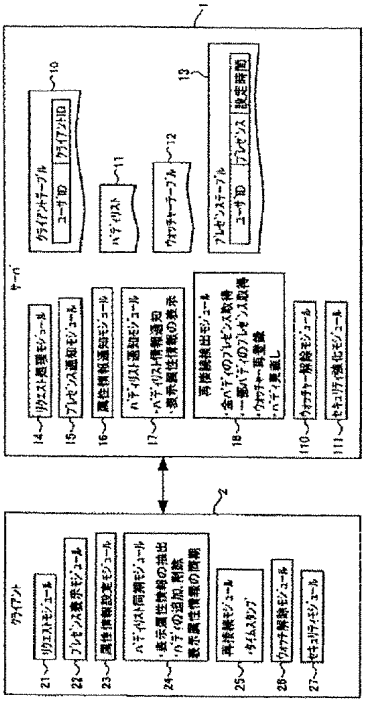
1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DRAWINGS

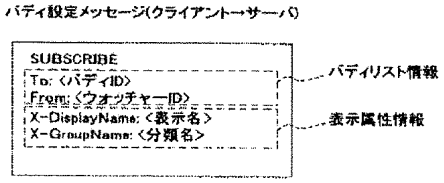
[Drawing 1]



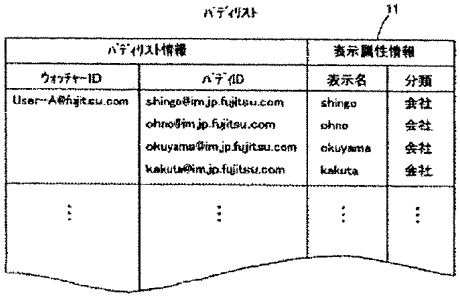
[Drawing 2]



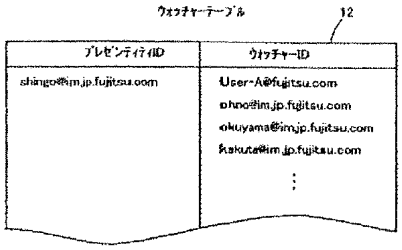
[Drawing 3]



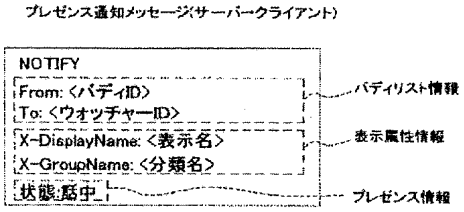
[Drawing 4]



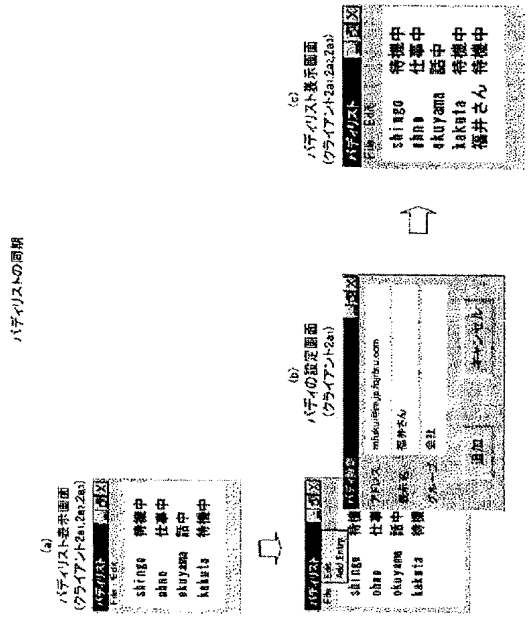
[Drawing 5]



[Drawing 6]

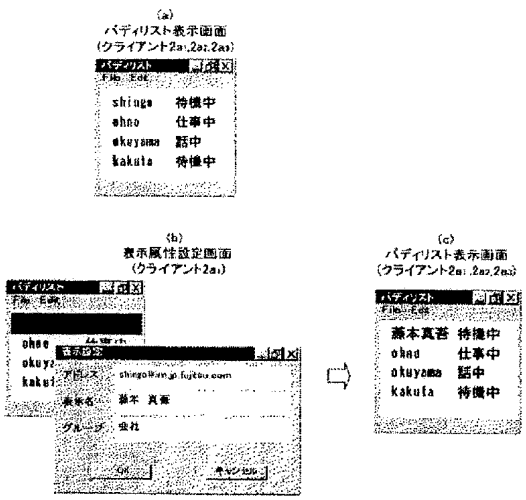


[Drawing 7]

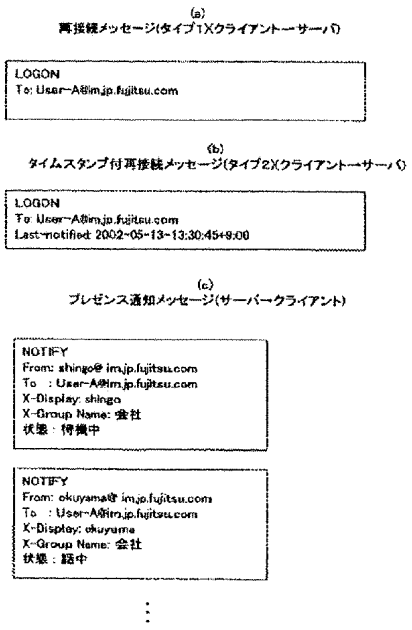


[Drawing 8]

表示属性情報の同期

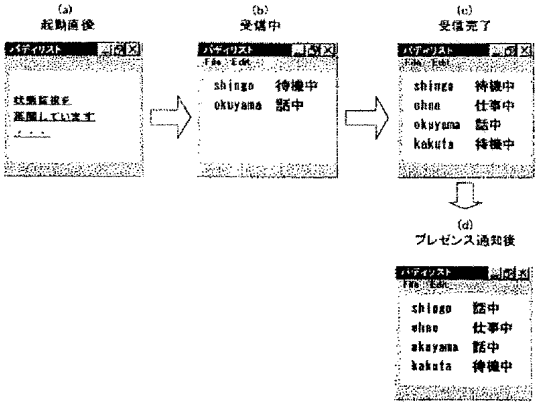


[Drawing 9]



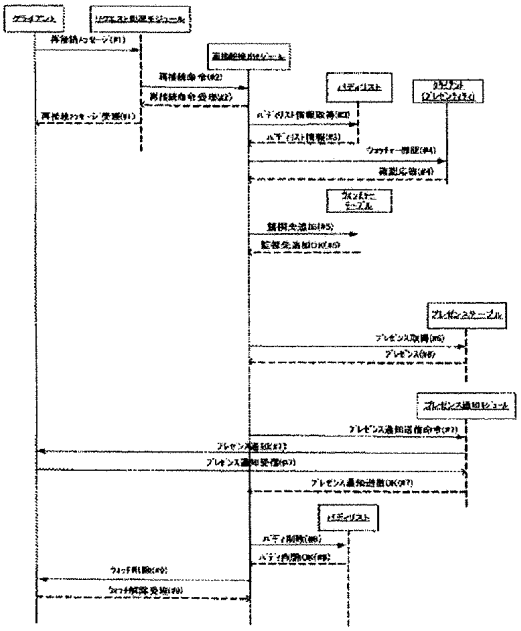
[Drawing 10]

再接続後のバディリスト表示画面例(クライアント2a)



[Drawing 11]

再接続処理



[Drawing 12]

ウォッチの解除

(a)
ウォッチ解除メッセージ(サーバ→クライアント)

NOTIFY
From: mfukui@im.jp.fujitsu.com
To : User-A@im.jp.fujitsu.com
Subscription-State: terminated

(b)
バディリスト表示画面
(クライアント2a1,2a2,2a3)

(c)
バディリスト表示画面
(クライアント2a1,2a2,2a3)

[Drawing 13]

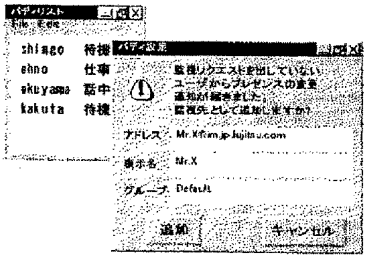
バディ以外のプレゼンティティのプレゼンス通知

(a)
警告メッセージ

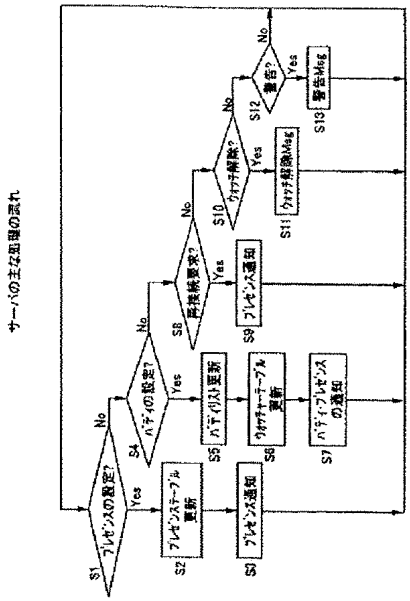
NOTIFY
From: (プレゼンティティID)
To : (ウォッチャーID)
X-Warning: not-requested

状態: 待機中

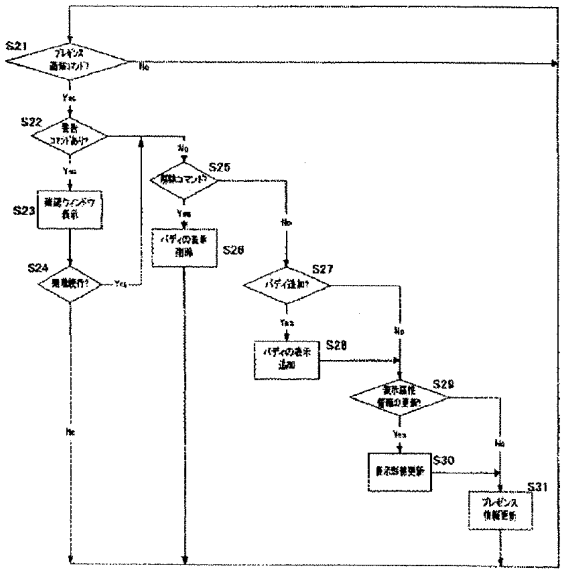
(b)
警告表示画面例



[Drawing 14]



[Drawing 15]



[Translation done.]